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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,575	01/29/2004	Jan Henk Kamps	GEPL.P-070	7054

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EXAMINER	
BOYKIN, TERRESSA M	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/768,575	KAMPS ET AL.	
	Examiner	Art Unit	
	Terressa M. Boykin	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-12,18-26,28-38,40 and 42-45* is/are rejected.

7)☒ Claim(s) *9,13-17,27,39 and 41* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-8,10, 11,12, 18-26, 28, 29-38, 40, 42 - 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Nagai et al. USPub 2004/0063825 see Table 1, page 2 paragraphs 25, 29, 64 - 65, page 3 paragraphs 57, 60, page 4 paragraph 64 - 65.

The reference USPub 2004/0063825 discloses a polycarbonate resin composition that has good color tone and undergoes less discoloration and less reduction in molecular weight at the time of heating during production of the resin, molding, extrusion processing, and the like. Note that Table 1 of the reference discloses the improvement in the yellowness index for the which anticipates applicants' plaque yellowness index as disclosed. An object of the reference is to provide an aromatic-Aliphatic copolycarbonate resin composition, that cuts ultraviolet rays efficiently, that has excellent color tone and melt stability and shows little coloration at the time of molding.

The aromatic dihydroxy compound used in the reference, there is used a compound represented by the following formula (4) therein are identical to those disclosed in applicants' specification on page 8 beginning in line 8. Note further that the formula is also representative of a compound *capable of forming a*

quinone structure upon oxidation, i.e. 2,6 diphenyl hydroquinone and 2,6, - diphenylquinone and derivatives thereof.

Note particularly that the reference discloses that the bisphenol compound maybe used in combination or with mixed bisphenols which again would anticipate applicants' claimed invention of two different aromatic hydroxy diols.

With regard to the use of an additional aliphatic dihydroxy diol component, note that applicants' also disclose in their specification on page 9 line 4 the use cycloaliphatic radicals etc. as well as in applicants' claim 1 last line. Additionally, the claims, as written, do not limit the type of diol components used herein as *only* aromatic containing. As written, there needs to be at least two dihydroxy aromatic compounds which would be met by the mixture/combination of formula (4) as disclosed in the reference on page 2 paragraph 25……"two or more of the above-mentioned aromatic dihydroxy compounds may be used in combination".

Aromatic-aliphatic copolycarbonate resin composition obtained by compounding 0.001 to 0.5 part by weight of a benzotriazole ultraviolet absorbent and 0.005 to 0.1 part by weight of a phosphorus antioxidant having a specified structure per 100 parts by weight of an aromatic-aliphatic copolycarbonate resin. A polycarbonate resin composition according to the present invention cuts ultraviolet rays efficiently, shows excellent color tone and melt stability, and shows extremely little coloration at the time of molding.

In the method for producing a polycarbonate associated with the present invention, a basic compound, an ester interchange catalyst, or the like is used as a catalyst. Such compounds include particularly alkali metals, alkaline earth metals, nitrogen-containing compounds, metal compounds such as tin, and the like.

Organic acid salts, inorganic acid salts, oxides, hydroxides, hydrides or alkoxides of alkali metals and alkaline earth metals, quaternary ammonium hydroxide and salts thereof, amines, and the like are preferably used. Those compounds may be used singly or in combination.

The components of the various kinds of additive including the above-mentioned ultraviolet absorbents and phosphorus antioxidants can be mixed into the polycarbonate resin by a hitherto known method. A method in which these additives are directly mixed into the molten resin after completion of the polymerization in a vertical or. horizontal type tank reactor or extruder and pelletized after cooling is suitably used. Also, a method in which the molten resin after completion of the polymerization is once cooled and pelletized and the respective components dispersively mixed thereafter in a high-speed mixer, typified by a tumbling mixer, a Henschel mixer, a ribbon blender or a super mixer and melt-kneaded in an extruder, a Banbury mixer, a roll, or the like is selected as appropriate.

With regard to the method, specifically, a first stage reaction is made to proceed at a temperature of 120 to 260.degree. C., preferably 180 to 240.degree. C., for 0 to 5 hours, preferably 0.5 to 3 hours. Then, while increasing the degree of pressure reduction in the reaction system and elevating the reaction temperature, the reaction among the aromatic dihydroxy compound and the aliphatic dihydroxy compound and the carbonic acid diester is performed and a polycondensation reaction is performed finally under a reduced pressure of 1 mmHg or less at a temperature of 200 to

300.degree. C. Such a reaction may be performed by a continuous method or a batch method. A reaction apparatus used for carrying out the above-mentioned reaction may be a reaction tank or an extruder-type reactor, or a horizontal reactor equipped with a stirring blade having excellent surface renewal properties, such as a paddle, a gate paddle, a spectacle blade, or the like.

With regard to claim 2 note page 4 paragraphs 64 and 65.

With regard to claim 3 note page 3 paragraph 60 discloses as the nitrogen-containing compounds, there can be used specifically ammonium hydroxides having alkyl, aryl, or araryl(alkaryl) groups, such as tetramethylammonium hydroxide, tetraethylammonium hydroxide, tetrapropylammonium hydroxide, tetrabutylammonium hydroxide, and trimethylbenzylammonium hydroxide, tertiary amines such as triethylamine, dimethylbenzylamine and triphenylamine, secondary amines such as diethylamine and dibutylamine, primary amines such as propylamine and butylamine, imidazoles such as 2-methylimidazole and 2-phenylimidazole, ammonia, basic salts such as tetramethylammonium borohydride, tetrabutylammonium tetraphenylborate and tetraphenylammonium tetraphenylborate, or the like.

With regard to claims 4, 5, 23 - 24, 35, and 36 note that the claim discloses that the R moiety may be representative of a C_4-C_{20} aryl radical which would again be anticipated by the formula (4) of the reference.

With regard to claims 6, 25, and 37 note that page 2 paragraph 14 discloses the use of BPA.

With regard to claims 7, 8, 10, 26, 38, and 40 note that the reference discloses on page 2 paragraph 29 line 6 the carbonate sources used therein, such as the carbonic acid diester, diphenyl carbonate, ditolyl carbonate, bis(chlorophenyl) carbonate, m-cresyl carbonate, dinaphthyl carbonate, dimethyl carbonate, diethyl carbonate, dibutyl

carbonate, dicyclohexyl carbonate, and the like can be used of these, in particular, diphenyl carbonate is preferable. Further, the chlorine content in diphenyl carbonate, which may also become a cause of coloration, is preferably 20 ppm or less. More preferably, it is 10 ppm or less. Note further with regard to applicants' claim 10 that the reference states that it is preferable that diphenyl carbonate be used in a quantity of 0.97 to 1.2 mol, particularly preferably in a quantity of 0.99 to 1.10 mol per 1 mol in total of the aromatic dihydroxy compound and the aliphatic dihydroxy compound.

With regard to claim 11 note that the reference discloses on page 3 paragraph 57 that organic acid salts, inorganic acid salts, oxides, hydroxides, hydrides or alkoxides of alkali metals and alkaline earth metals, quaternary ammonium hydroxide and salts thereof, amines, and the like are preferably used.

Further note that those compounds may be used singly or in combination.

With regard to claim 12 note page 4 paragraph 64 of the reference.

With regard to claim 18 note page 4 paragraph 65 lines 11-12.

With regard to claims 19-21 note page 4 paragraph line 3.

With regard to claim 22 note page 3 paragraph 57.

With regard to claim 28 note page 2 paragraph 29 lines 9-13.

With regard to claim 30 although unclear as noted above may be anticipated the reference on page 4 paragraphs 64 and 65.

With regard to claims 29, 31-33 note page 4 paragraph 65 line 3. Note also that claim 29 recites "introduced together *or* separate".

With regard to claim 34 note page 3 paragraph 57 of the reference.

With regard to claims 42-43 note page 3 paragraph 55 of the reference discloses that the polycarbonate resin used in the present invention has a weight average molecular weight of preferably 30,000 to 200,000, more preferably 40,000 to 120,000.

Thus in view of the above, there appears to be no significant difference between the reference and that which is claimed by applicant(s). Note that the final copolycarbonate are both used in application for optical medical, optical discs, windows etc. where the improved color is a beneficial and necessary characteristic. y Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

Objected Claims

Claims 9, 13, 14, 15, 16, 17, 27, 39, 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

35 USC 112, Second Paragraph

Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 is dependent upon a nonexistent claim 50 which renders the claim unclear and indefinite as to applicants' intent.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-41 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-51 of copending Application No.10925833. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: The application discloses a method of producing a copolycarbonate with improved color wherein the method comprises the steps of,

i. preparing a molten reaction mixture comprising a first dihydroxy aromatic compound comprising monomer residue(a), a second dihydroxy aromatic compound comprising monomer residue(b), a carbonate source, and a polymerization cataslyst as claimed in claim 1

ii. introducing an antioxidant such as a hydroxycarboxylic acid to the reaction mixture in an amount sufficient to result in a product copolycarbonate with improved color.

iii. introducing the reaction mixture to a series of process units, and

iv. allowing the reaction mixture to polymerize thereby forming copolycarbonate, wherein the copolycarbonate has improved color as compared to copolycarbonate formed in a melt process without the introduction of antioxidant as noted in therein application 10/925833.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application.

Correspondence

Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at http://www.uspto.gov/ebc/index.html or 1-866-217-9197.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is **(571-272-1700).**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmb

Terressa Boykin

Examiner Terressa Boykin
Primary Examiner
Art Unit 1711